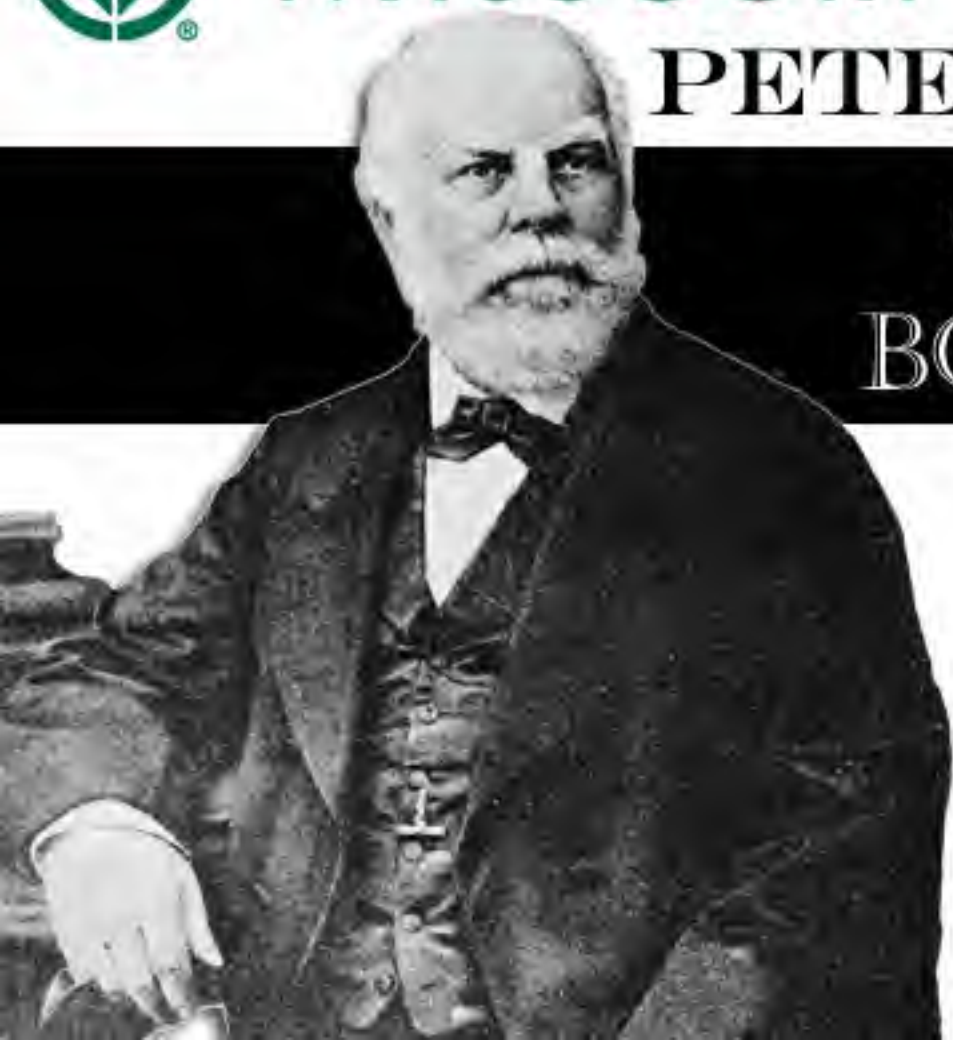


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BOTANICAL NOTEBOOKS



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1861	86.4	71.3	60.3	57.2	65.1	77.3
1862	5.3	70.6	60.0	57.5	67.6	78.0

V. Positive or Negative Electricity in the Observations of '61 & '62.

	Positive Electricity.		Negative Electricity.		No Electricity, or 0.		Highest Positive Electricity.	
	1861.	1862.	1861.	1862.	1861.	1862.	1861.	1862.
Jan.....	179	179	3	5		2	40°	40°
Feb.....	162	166	6	2			34	33
March...	168	179	15	8			30	48
April....	157	157	12	22	1	1	33	52
May.....	171	180	17	5	1	3	25	32
June	162	143	5	2	8	20	16	21
July.....	183	153	3	8	1	24	14	11
August..	176	143	5	4	6	40	15	19
Sept.....	169	117	1	1	10	61	18	23
Oct.....	162	143	4	3	20	41	33	35
Nov.....	172	157	2	7	6	16	42	42
Dec.....	175	166	5	0	6	17	37	35
	2046	1883	78	67	59	225	42°	52°

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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over

April 23 1865

Pinus Coulteri

Branches glaucous, leaves stout, in 3rd row 2^d

bracts (or perulae) lanceolate, long acuminate,
5-6 lines long, reflexed, deciduous after the
first summer.

Sheath about 8 lines long first year, 2-4 lines in
the following seasons, when older

leaves stout 6-8 or even 9 inches long, finely
serulate at edges, slightly rough on midrib.
seed 6 $\frac{1}{2}$ -8 lines long, considerably flattened, black, indistinctly
ribbed and dull (opaque) on the lower smooth and
shining on the upper free side, obliquely almond shape,
rounded, broad above and pointed on lower end
sharp on the outer and rounded on the inner and upper
edge.

Wing (with the seed) 15-16 lines long, broadest in upper third,
(5-6 lines)



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ALEX. LEITCH,
APOTHECARY & CHEMIST,
 Cor. 4th and Olive Sts., St. Louis.


ov
 Cone oval (pendulous?) 8" long 6" broad
 (open)
 scales $\frac{21}{24}$ arranged, 8 & 13 rows much
 prominent.

bracts of scales oval, or rectangular
 emarginate, partially forming the base of
 the seeds of the scales next below.

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Positive Electricity.		Negative Electricity.		No Electricity, or 0.		Highest Positive Electricity.	
1861.	1862.	1861.	1862.	1861.	1862.	1861.	1862.
						40°	40°

6 tub

Pinus insignis Don

includes *P. tuberculata* Don

P. radiata Don

for Don. Bot D. 209

573-4

JOURNAL OF PROCEEDINGS.

reins zur Beförderung des Gartenbaues, 1860, Nos. 1-52—1861, Nos. 1-6, Berlin, *from the Society*; Atti della Società Ital. di Scienze Nat., Milano, Vol. II., Fasc. 2, 1860, *from the Society*; Atti dell I. R. Istituto Veneto, T. V., Ser. iii., Disp. 10—T. VI., Ser. iii., Disp. 1-3, 1860-1, *from the Society*; Visir- und Recheninstrumente von Ernst Sedlacek, Wien, 1856,—Rechenenschieber, von E. Sedlacek, Wien, 1856,—Kompendium der ebenen und sfärischen Trigonometrie von E. Sedlacek, Wien, 1856, *from Mr. Senoner*; L'Ortolano, Giornale Popolare d'Orticultura, Trieste, Anno I. 1-12, III. 1-9, 1859-60,—Allocuzione da Prof. Adolfo Stopice, Trieste, 1860, *from the Society*; Fr. Ambrosii Flora Tiroliae Australis, Vol. II., Pt. 4, *from the Author*; Verhandl. des Naturh. Vereins, Bonn, Jahrg. XVII., 1-2, 1860, *from the Society*; Sitzungsab. der K. K. Akad. der Wissenschaften, Wien, Band XLII., No. 22-28, 1860, *from the Society*; Nachrichten von der Georg-Augusts-Univ. u. der K. Gesellsch. der Wissensch., Göttingen, 1860, No. 1-29, *from the Society*; Bull. de la Société Linnéenne de Normandie, Vol. V., 1859-60, Caen, 1861, *from the Society*; Mém. de l'Acad. Imperiale de Metz, Ann. XLI., 1859-60, *from the Academy*; Jahrbücher des Vereins für Naturk. in Nassau, XIV. Heft, Wiesbaden, 1859, *from the Society*; Dr. J. C. Ed. Hoser's Rückblicke, Prag, 1848, von Dr. Weltenweber,—Sitzungsab. der K. böhm. Gesellsch. der Wissenschaften, Prag, 1859, Juli-Dec.—1860, Jan.-Juni, *from the Society*; I. Bericht des Offenbacher Vereins für Naturk., 1860, *from the Society*; Würzburger Medicin. Zeitschrift, II. Band, 1-2 Heft, 1861, *from the Society*; Der Zoologische Garten, von Dr. D. F. Weinland, Jahrg. II., No. 1-6, 1860-61, *from the Editor*; XX. Bericht über das Museum Francisco-Carolinum, Linz, 1860, *from the Institution*; Monatsb. der K. Preuss. Akad. der Wissenschaften, 1860, Berlin,—General Register, 1836-58, Berlin 1860, *from the Academy*; Gelehrte Anzeigen, Vol. 49 & 50,—Sitzungsab. des K. bayer. Akad. der Wissenschaften, 1860, Heft 1-3, München,—Verzeichniss der Mitglieder, 1860,—Bedeutung der Sanskritstudien, von Dr. Wilh. Christ, 1860,—Denkrede auf Alex. von Humboldt, von C. F. P. von Martius, 1860,—Grenzen und Grenzgebiete der physikal. O. F. P. von Martius,

♂ 6 leaves, ext shorter
very broad at mid
5-7 cotyl





P. insignis *cinata*
bifolia

186

Editorial.

and Practice of Medicine, by Dr. ANDREW, Physician to St. Bartholomew's,
1 vol., small 8vo.

Prof. ELLIOT, of New York, is writing a work on the Hygiene of
Infancy and the Diseases of Children, soon to be issued by Appleton &
Co., N. Y.—Dr. EUSTACE SMITH's book on the Wasting Diseases of
Children, is being reproduced by Mr. Lea in the *Medical News and Library*.

HUDSON's Lectures on the Study of Fever has been reviewed at some
length in the present number of the Journal.

In psychological medicine we observe: DESPINE, *Psychologie naturelle*,
a study on the intellectual and moral faculties, normally and in their
manifestations in the insane and in criminals, 3 vols., 8vo., Montpellier;—
LUNIER, *Etudes sur les maladies mentales et les asiles d'aliénés. De l'aliéna-
tion mentale et du crétinisme en Suisse*, 270 pp. 8vo., Savvy, Paris. Also
the announcement, by Messrs. D. Appleton & Co., N. Y., of a work by
Prof. HAMMOND on the Diseases of the Mind and Nervous System. A
second *thèse* by Dr. GRENIER (whose first dissertation on free will called
forth the storm against the so-called "materialists" of the Paris medical
schools), entitled "On the Senile Softening of the Brain," is dedicated to
Monseigneur Dupanloup, Bishop of Orléans. Dr. DUBREUIL's
Aneurisms of the Brain, considered as a
hemorrhage," 129 pp.

In Paris appeared
GREENHOW, On Ch
introduced i

Jan.....	17
Feb.....	16
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April.....	17
May.....	16
June.....	18
July.....	17
Aug.....	16

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Editorial.

185

MEDICAL BIBLIOGRAPHY.

The experiment of introducing the institution of "Hospital Reports" in this country, which was begun last year by the PENNSYLVANIA HOSPITAL in Philadelphia, has met with success, the second volume of its Reports having just been published. The Reports of the BELLEVUE and CHARITY HOSPITALS of New York, though announced over a year ago, have not yet made their appearance; but the first volume is now promised to be out on Feb. 15th. (We have not heard from it.)

Prof. CARSON has written a History of the Medical Department of the University of Pennsylvania.

Prof. HARTSHORNE, of the same school, has condensed "the indispensable elements of a course of medical study" into a Conspectus of the Medical Sciences, 1002 pp., large royal 12mo.; in the interest of the author we hope that the conspectus may escape the odium attaching to the "compend" of Neill and Smith, of which it will be the successor.

Anatomy and Physiology.—We note the advertisement of a large illustrated work on the anatomy (?) of the nervous system: ROUDANOWSKI, *Etudes photographiques sur le système nerveux*, 8vo., atlas and photogr. plates in folio, published by Adr. Delahaye at 250 francs. A monograph by Prof. [unclear] on the anatomy of the pharynx—[unclear] of especial

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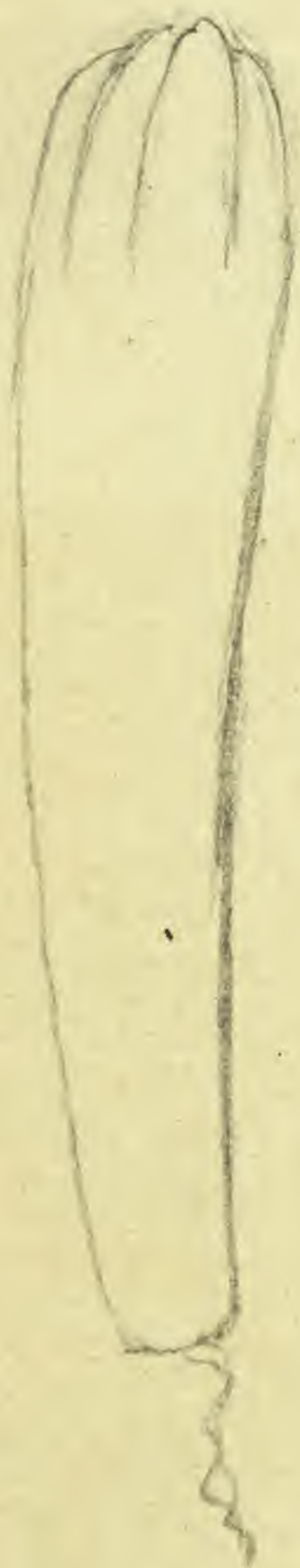
Pinus insignis ?

March 9 1865-

California State Survey

from half open cone, no wood

x10



2 embryos with 7 styl
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DRUGGISTS,

South-West Corner of Fifth and Market Streets.

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Pinus insignis

Monterey, Calif. Parry 1850

May 1862

Branch after
falling of leaves

x 2



Branch



bracts lanceolate linear, squarrose
or reflexed, persistent nearly as
long as leaves, their bases even
longer.

MISSOURI BOTANICAL GARDEN HERBARIUM

ALPHABETICALLY AND CHRONOLOGICALLY

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Pinus tuberculata

Pinus insignis

575

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reins zur Beförderung des Gartenbaues, 1860, Nos. 1-52—1861, Nos. 1-6, Berlin, *from the Society*; Atti della Società Ital. di Scienze Nat., Milano, Vol. II., Fasc. 2, 1860, *from the Society*; Atti dell I. R. Istituto Veneto, T. V., Ser. iii., Disp. 10—T. VI., Ser. iii., Disp. 1-3, 1860-1, *from the Society*; Visir-und Recheninstrumente von Ernst Sedlaczeh, Wien, 1856,—Rechenschieber, von E. Sedlaczeh, Wien, 1856,—Kompendium der ebenen und sfärischen Trigonometrie von E. Sedlaczeh, Wien, 1856, *from Mr. Senoner*; L'Ortolano, Giornale Popolare d'Orticoltura, Trieste, Anno I. 1-12, III. 1-9, 1859-60,—Allocuzione da Prof. Adolfo Stopice, Trieste, 1860, *from the Society*; Fr. Ambrosii Flora Tiroliae Australis, Vol. II., Pt. 4, *from the Author*; Verhandl. des Naturh. Vereins, Bonn, Jahrg. XVII., 1-2, 1860, *from the Society*; Sitzungsab. der K. K. Akad. der Wissenschaften, Wien, Band XLII., No. 22-28, 1860, *from the Society*; Nachrichten von der Georg-Augusts-Univ. u. der K. Gesellsch. der Wissensch., Göttingen, 1860, No. 1-29, *from the Society*; Bull. de la Société Linnéenne de Normandie, Vol. V., 1859-60, Caen, 1861, *from the Society*; Mém. de l'Acad. Imperiale de Metz, Ann. XL., 1859-60, *from the Academy*; Jahrbücher des Vereins für Naturk. in Nassau, XIV. Heft, Wiesbaden, 1859, *from the Society*; Dr. J. C. Ed. Hoser's Rückblicke, Prag, 1848, von Dr. Weitenweber,—Sitzungsab. der K. böhm. Gesellsch. der Wissenschaften, Prag, 1859, Juli-Dec.—1860, Jan.-Juni, *from the Society*; I. Bericht des Offenbacher Vereins für Naturk., 1860, *from the Society*; Würzburger Medicin. Zeitschrift, II. Band, 1-2 Heft, 1861, *from the Society*; Der Zoologische Garten, von Dr. D. F. Weinland, Jahrg. II., No. 1-6, 1860-61, *from the Editor*; XX. Bericht über das Museum Francisco-Carolinum, Linz, 1860, *from the Institution*; Monatsb. der K. Preuss. Akad. der Wissenschaften, 1860, Berlin,—General Register, 1836-58, Berlin 1860, *from the Academy*; Gelehrte Anzeigen, Vol. 49 & 50,—Sitzungsab. des K. bayer. Akad. der Wissenschaften, 1860, Heft 1-3, München,—Verzeichniss der Mitglieder, 1860,—Bedeutung der Sanskritstudien, von Dr. Wilh. Christ, 1860,—Denkrede auf Alex. von Humboldt, von C. F. P. von Martius, 1860,—Grenzgebiete der Wissenschaften, von Dr. C. F. P. von Martius, 1860, *from the Rep. of the Trustees of the Acad. Nat. Sciences*.

Pinus insignis

invol. 6-8 inch, external long as others

5-8 Cotyl



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TRANS. OF THE ACAD. OF SCIENCE.

Dr. Koch presented specimens of quartz and of the silicious conglomerate from Madison County mentioned in Dr. Hilgard's letter.

Dr. Engelmann stated that the mean temperature of July (77.5°) had been lower than the usual mean of that month, and that the fall of rain during the same month (2.04 inches) was about one-half less than usual.

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TRANS. OF THE ACAD. OF SCIENCE.

IV. Direction of Winds and number of Thunderstorms in '61 & '62.

1861.	E.	N.	N.E.	S.W.	N.W.	S.	W.	S.E.	Prevailing Winds.	Thunder- storms.
January	11	3	12	22	38	18	28	61	S.E.	0
February	4	2	2	35	24	19	41	60	S.E.	2
March	12	11	10	23	30	19	42	40	W. & S.E.	3
April	16	10	9	26	21	35	34	26	S. & W.	2
May	26	10	23	21	8	13	49	35	W. & S.E.	5
June	12	21	22	20	25	26	8	41	S.E.	7
July	3	31	14	21	26	46	15	29	S.	3
August	18	24	58	17	11	18	3	29	N.E.	5
September...	6	14	18	26	30	13	21	52	S.E. & N.W.	3
October	12	9	5	21	30	33	30	46	S.E. & S.	1
November...	7	15	8	22	27	20	36	44	S.E. & W.	1
December ...	9	19	9	25	23	33	17	51	S.E. & S.	0
	136	169	190	279	293	293	324	522	S.E.	32

1862.	E.	S.W.	N.	N.E.	W.	S.	N.W.	S.E.	Prevailing Wi	Th.
Jan.	19	6	19	23	29	3	38	51	S.E.	
Feb.	14	9	18	16	22	7	39	43	S.E. & N.W.	
March ...	9	14	3	15	59	10	34	43	W., S.E. & N	
April	12	13	18	31	18	11	34	47	S.E., N.W. &	
May	12	18	14	38	18	30	14	44	S.E. & N.E.	
June	3	29	24	16	8	36	26	23	S., S.W., N.W	
July	5	25	17	7	2	24	31	77	S.E. & S.E.	
August...	6	16	16	45		28	28		S.E.	

Pinus. latifolia
tuberculata

Southern *Bolander No 1.*

belongs to
tubercles

6-8 inobl
ext as long
as wide

5 tub

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Additional Remarks on ATMOSPHERIC ELECTRICITY.

By A. WISLIZENUS, M.D.

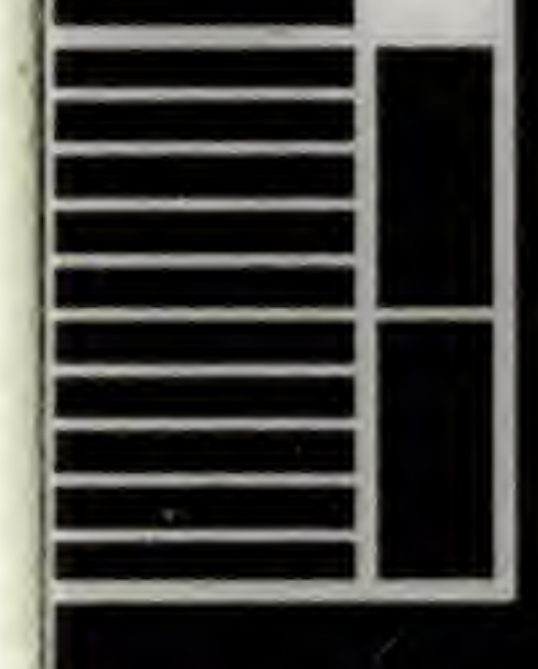
The delay in the publication of this volume enables me to add to my observations of atmospheric electricity in 1861, the result of my observations in 1862. The latter observations have been made in the same manner and by means of the same fine glass thread, which, after many thousand torsions, proves as good as ever. I present herewith in tabular form the general result of my observations in 1861 and 1862.

I. Monthly mean of Positive Atmospheric Electricity in 1861 and 1862, at St. Louis, Mo., based upon daily observations at 6, 9, 12, 3, 6 and 9 o'clock, from morning till night.

	Jan.	Feb.	Mar.	Ap'l.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean of Year.
1861*	16.5	12.1	9.8	8.8	7.8	4.0	3.7	3.4	3.0	7.1	10.0	14.3	8.4
1862...	12.1	16.0	9.4	10.6	7.5	3.0	2.2	2.3	3.0	7.7	12.6	13.9	8.4

* This table of 1861 differs in some decimals from that published on page 66 and in Diagram No. 1. Having discovered some errors, I calculated all my observations once more, and give now the present as the corrected table.

II. Monthly mean of Temperature and of Relative Humidity in 1861 and 1862 at St. Louis, Mo., based upon daily observations of Atmospheric Electricity.



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H. D. M. S.



Pinus tuberculata May 2^d 1862

Scales or bracts of
young turricles entirely
brown to tip, ovate-
lanceolate, acute or
apiculate, short

scales or
bracts with
ternate leaves
in axil.

fringed on margin,
fringes white or
usually also brown

pulvillus large

lower bracts often without
any leaves in axils

empty scales

bracts of amentum
orbicular ovate, obtuse



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Pinus Taeda

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Pinus Teda

	leaves length	sheath young old	length of axis of m. infl.	length of ament	number of invol. scales	size of folia
Delaware	6 $\frac{1}{2}$ -7 $\frac{1}{2}$ "	9-12"	6"	$\frac{1}{2}$ "	2"	8 0.036-38
Houston	8"		4-4 $\frac{1}{2}$ "	$\frac{1}{2}$ "	2"	10-12 34-37
North Carol.	7"		5"			
Camden Ark.	8 $\frac{1}{2}$ "	9-10"	5"			
? Mobile	7"		5"	$\frac{1}{2}$ "	1"	12-13 39-40



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MISSOURI
BOTANICAL
GARDEN

Pinus Teda

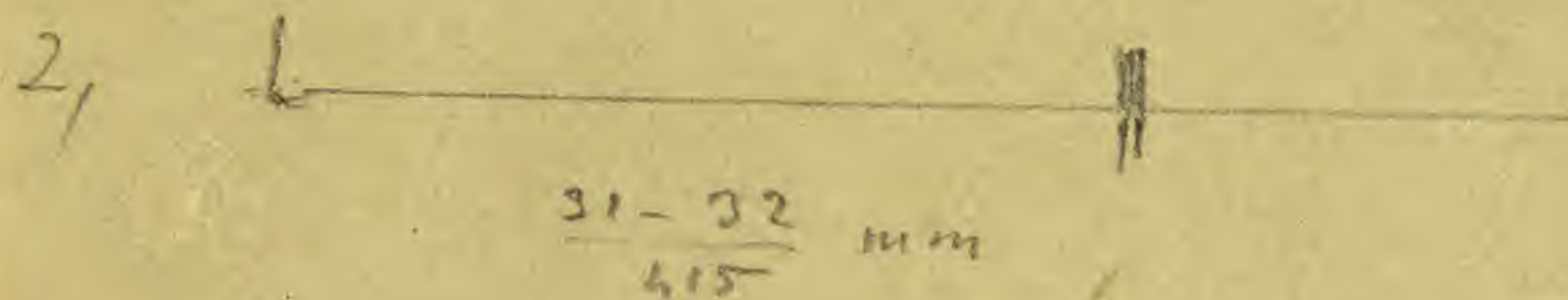
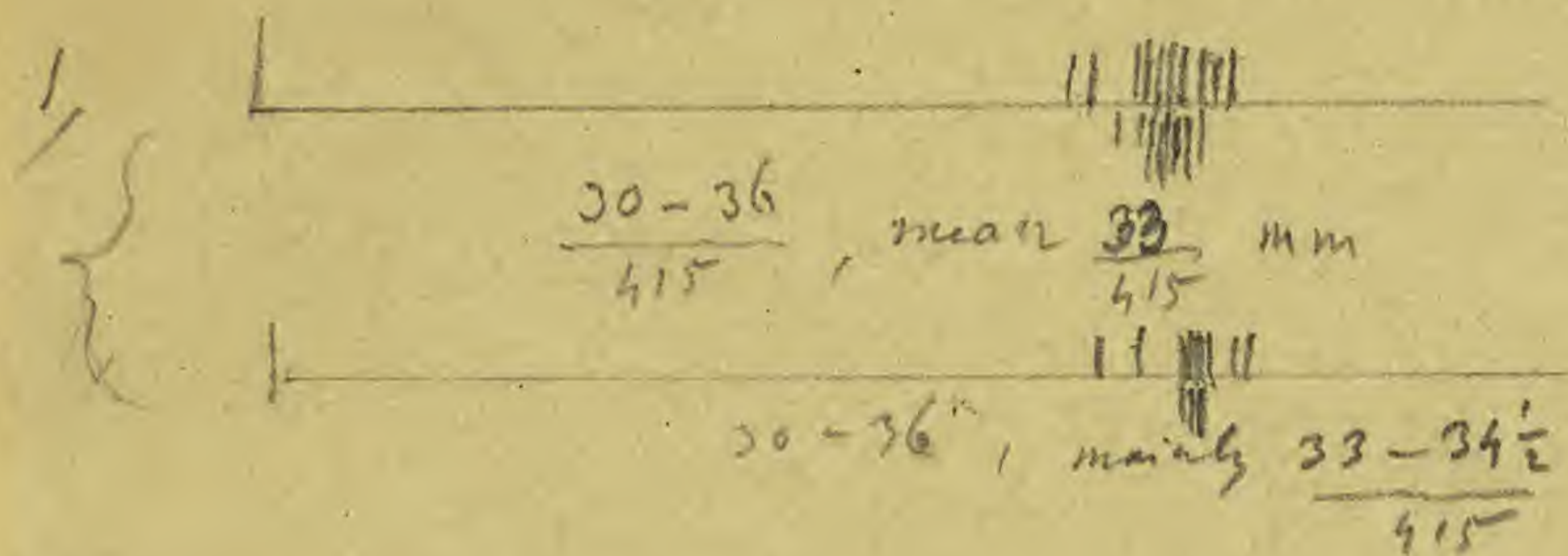
March 21 1871

Bluffton S.C., Dr. Mulliken's camp. March 12 1871

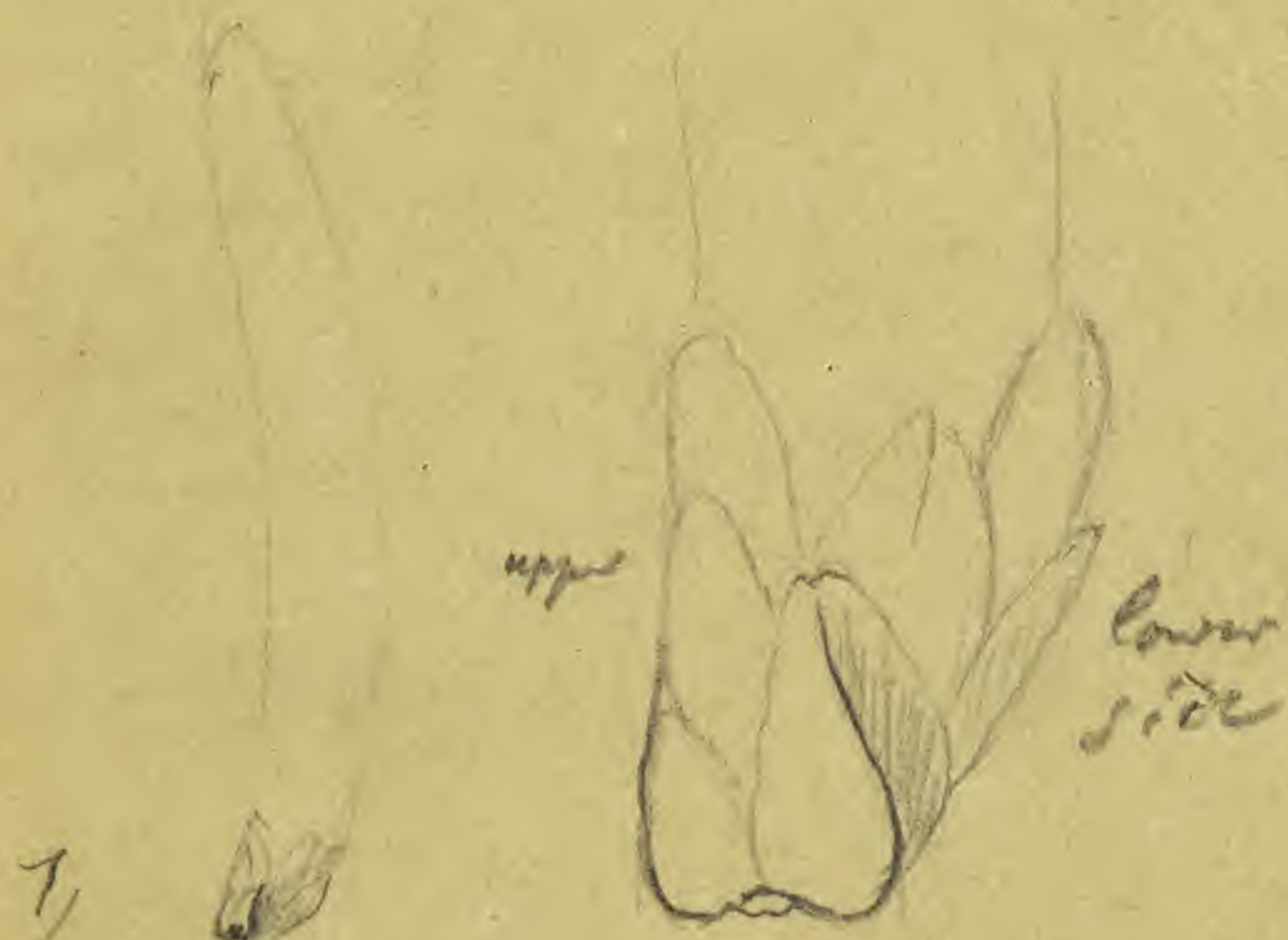
"young, tall"

full supply of Pollen

March 26th examined



same — March 14 1871
few pollen grains adhering



10 scales

x4

outer lateral scales
fully half as long as
involucrum, or longer



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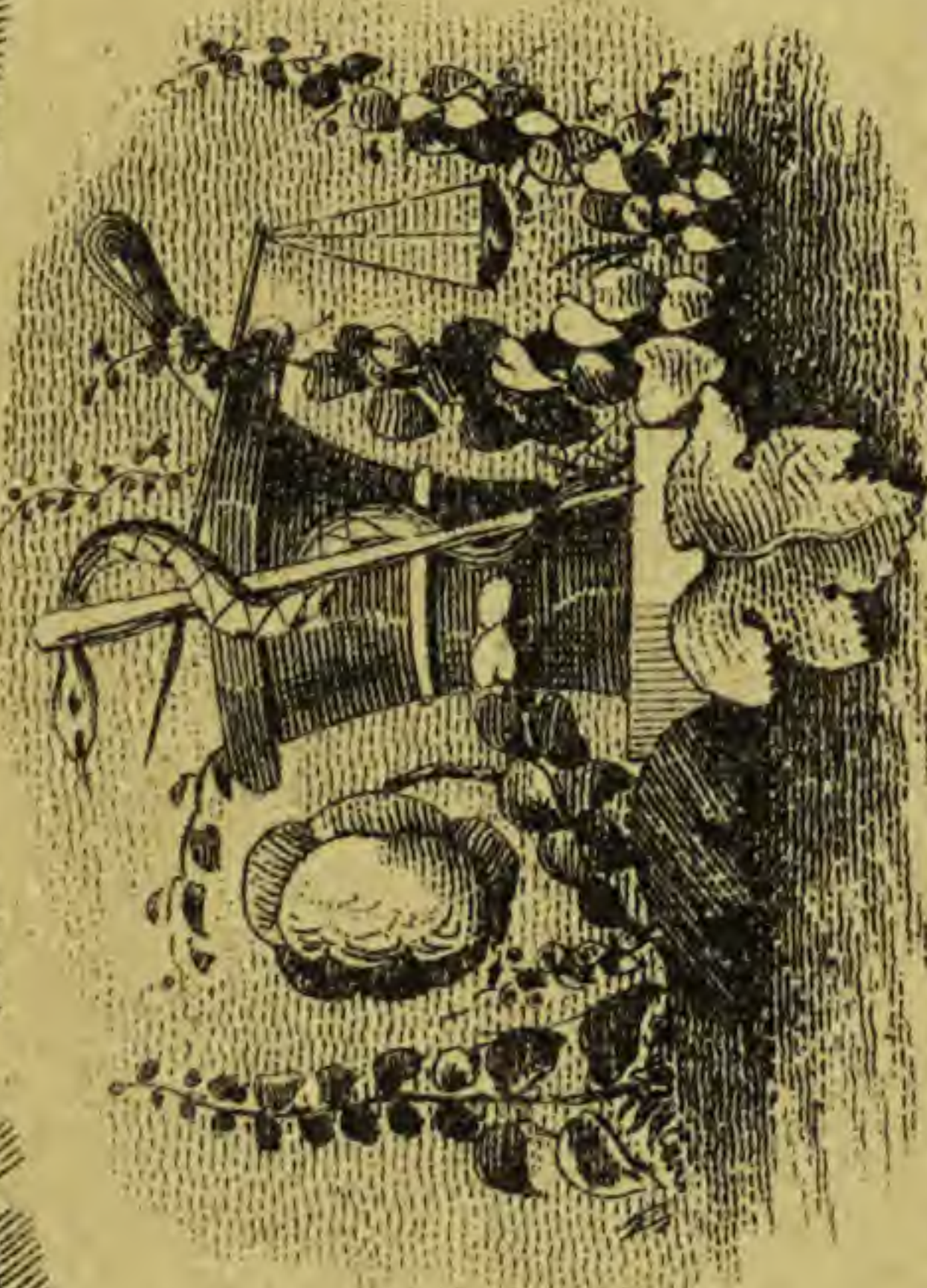
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EDMUND R. SWANNY & CO.



Pharmaceuti

Apothecaries &

S.W. CORNER OF TWELFTH & OLIVE STREETS,

ST. LOUIS, MO.

J.C. Wood, Olive St.

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GEORGE ENGELMANN PAPERS



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P. Tuda

May 21 1871

Aiken SC

Reverend

1870

leaves 6-7

x4

x30

Missouri Botanical Garden
Herbarium
George Engelmann
P. Tuda
Aiken SC
May 21 1871



0 1 2 3 4 5 6 7 8 9 10

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Leitch & Corlies

Druggists

South West
Corner Fifth
and Market
Streets

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Pinus taeda

May 30 1878

Virginia,

Canby

Cones

not opening even
now, in May

x4



3 ridges on
outer side
of black seed

cotyl

6-7



0 1 2 3 4 5 6 7 8 9 10

cm

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GARDEN

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HENRY T. BOHLING,

APOTHECARY,

No. 2600 Eacleda Ave., S. W. Cor. Jefferson Ave.,
ST. LOUIS, MO.

No.

Date,

187

R

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Geo. Engelmann, M. D.,

No. 3003 Locust Street,



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T. Tuck

March 8 1880

fresh Pollen, March 1st 1880 S. Can
flowers not fully developed

x 415



$$\frac{29.5 - 32.5}{415} \text{ mm}$$

$$= 0.071 - 0.078 \text{ mm}$$

$$\frac{14 - 15.5}{415}$$

$$= 0.034 - 0.037 \text{ lines}$$



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